WHAT IS CLAIMED IS:

1. A method for removing solid deposits of NO_x from an ozone generator; said generator comprising:

(a) a first and second electrode, said electrodes being spaced from each other and having a passageway therebetween;

(b) said solid deposits of NO_x located within said passageway;

said method comprising the step (i) of passing a warm cleaning gas through said passageway to evaporate said solid deposits of NO_x with boiling points equal to or less than 65°C which are deposited therein; said warm cleaning gas exiting said ozone generator at a temperature sufficient to maintain the NO_x in a gaseous state until said NO_x exits said ozone generator.

2. A method for removing solid deposits of NO_x from an ozone generator, said generator comprising:

a) a housing enclosing an interior having an inlet and an outlet;

b) a pair of spaced electrodes mounted within said interior, said electrodes being spaced from each other;

c) solid deposits of NO_x located within said interior;

said method comprising step (i) of passing a warm cleaning gas through said interior from said inlet to said outlet to evaporate at least some of the NO_x

deposited therein; said warm cleaning gas exiting said ozone generator at a temperature sufficient to maintain the NO_x in a gaseous state until said NO_x exits said ozone generator.

3. A method for removing solid deposits of NO_x from an ozone generator, said generator comprising:

a) a housing and a plurality of support tubes mounted within said housing;

b) said support tubes each supporting therein one or more dielectrics;

c) each of said support tubes having an inner wall and whereby a passageway is formed between said inner wall of said support tubes and said one or more dielectrics; said passageway having solid deposits of NO_x therein;

d) a support tube inlet in flow communication with a support tube outlet through said passageway;

said method comprising the step (i) of passing a warm cleaning gas through said passageway to evaporate at least some of said solid deposits of NO_x which are deposited therein and carry at least some of the evaporated NO_x from the ozone generator.

4. A method as claimed in claim 1 wherein said NO_x includes N_2O_5.

5. A method as claimed in claim 2 wherein said NO_x includes N_2O_5.

6. A method as claimed in claim 3 wherein said NO_x includes N_2O_5.

7. A method as claimed in claim 6 wherein said cleaning gas is heated to between 47°C to 65°C before it reaches each said support tube inlet.

8. A method as claimed in claim 7 wherein the flow of said cleaning gas through each said support tube is such that the temperature of said cleaning gas exiting at each said support tube outlet is between 47°C and 65°C.

9. A method as claimed in claim 6 wherein said cleaning gas is heated to between 55°C to 60°C before it reaches said support tube inlet, and the flow of said cleaning gas through said support tube is such that the temperature of said cleaning gas exiting said support tube outlet is between 50°C and 55°C.

10. A method as claimed in claim 6 wherein said housing has a shell; said shell defining an interior in which said support tubes are supported in spaced relation to each other; said interior having an interior space between said support tubes; said interior space having an inlet and an outlet and comprising a step (ii) of heating said shell directly whereby as said gas passes through said support tubes said gas is heated by said shell.

11. A method as claimed in claim 6 wherein said housing has a shell; said shell defining an interior in which said support tubes are supported in spaced relation to each other; said interior having an interior space between said support tubes; said

interior space having an inlet and an outlet and comprising a step (ii) of passing a heated fluid in said interior space from said shell inlet to said shell outlet.

12. A method as claimed in claim 11 wherein said fluid is water.

13. A method as claimed in claim 12 wherein said water is at a temperature greater than 47°C in said interior space.

14. A method as claimed in claim 12 wherein said water is heated before entering said interior space at said shell inlet to between 47°C and 65°C and the temperature of said water flowing through said shell is between 47°C and 65°C.

15. A method as claimed in claim 12 wherein said water is heated before said shell inlet to between 55°C and 60°C and the temperature of said water flowing through said shell is between 47°C and 65°C.

16. A method as claimed in claim 11 wherein said housing has a jacket surrounding said shell; said jacket having an inner wall and a second passageway between said shell and said inner wall of said jacket; said second passageway communicating between a jacket inlet and a jacket outlet and comprising step (iii) of circulating a warm fluid through said second passageway of said jacket.

17. A method for removing solid deposits of NO_x from an ozone generator, said generator comprising:

a) an outer housing and a plurality of support tubes mounted within said housing and;

b) said support tubes each supporting therein one or more dielectrics;

c) each of said support tubes having an inner wall and a passageway between said inner wall and said one or more dielectrics;

d) said passageway communicating between a support tube inlet and a support tube outlet; and

e) wherein said housing has a shell; said shell defining an interior surrounding said support tubes; said interior communicating between a shell inlet and a shell outlet;

f) said method comprising step (i) of circulating a warm fluid within said shell and the concurrent step (ii) of evacuating said support tubes to remove the evaporated NO_x with boiling points less than 65°C that had been deposited therein.

18. A method for removing solid deposits of NO_x from an ozone generator, said generator comprising:

a) an outer housing and a plurality of support tubes mounted within said housing and;

b) said support tubes each supporting therein one or more dielectrics;

c) each of said support tubes having an inner wall and a passageway between said inner wall and said one or more dielectrics;

d) said passageway communicating between a support tube inlet and a support tube outlet; and

e) wherein said housing has a shell; said shell defining an interior surrounding said support tubes; said interior communicating between a shell inlet and a shell outlet;

f) said method comprising step (i) of circulating a cleaning gas through said support tubes and the concurrent step (ii) of circulating a warm fluid within said shell to heat said cleaning gas, thereby removing the NO_x with boiling points less than 65°C deposited therein; wherein the temperature of said warm fluid is sufficient to ensure that the temperature of said cleaning gas exiting said ozone generator is sufficient to maintain said NO_x in a gaseous state until said NO_x exits said ozone generator.

19. A method as claimed in claim 1 comprising a further step (ii) of diverting a sufficient portion of said cleaning gas to a water trap and monitoring the pH within the water trap.

20. A method as claimed in claim 2 comprising a further step (ii) of diverting a sufficient portion of said cleaning gas to a water trap and monitoring the pH in the water trap.

21. A method as claimed in claim 3 comprising a further step (ii) of diverting a sufficient portion of said cleaning gas to a water trap and monitoring the pH in the water trap.

22. A method as claimed in claim 1 wherein said cleaning gas consists substantially of oxygen gas.

23. A method as claimed in claim 2 wherein said cleaning gas consists substantially of oxygen gas.

24. A method as claimed in claim 3 wherein said cleaning gas consists substantially of oxygen gas.

25. A method as claimed in claim 19 comprising a further step (iii) of adding a neutralizing agent to maintain an approximately constant pH in said water trap which has received a sufficient portion of said cleaning gas exiting said ozone generator, and whereby when the adding of said neutralizing agent over a period of time has stopped, it can be determined that said cleaning of said ozone generator has been completed.

26. A method as claimed in claim 20 comprising a further step (iii) of adding a neutralizing agent to maintain an approximately constant pH in said water trap which has received a sufficient portion of said cleaning gas exiting said ozone generator, and whereby when the adding of said neutralizing agent over a period of time has stopped, it can be determined that said cleaning of said ozone generator has been completed.

27. A method as claimed in claim 21 comprising a further step (iii) of adding a neutralizing agent to maintain an approximately constant pH in said water trap which has received a sufficient portion of said cleaning gas exiting said ozone generator, and whereby when the adding of said neutralizing agent over a period of time has stopped, it can be determined that said cleaning of said ozone generator has been completed.

28. A method as claimed in claim 3 comprising a further step (ii) of diverting sufficient portion of said cleaning gas to a water trap to create a measurable change in pH from an operating reference pH and monitoring said pH to determine when said pH returns to and remains substantially at said operating reference pH.

29. A method for removing dinitrogen pentoxide deposits from an ozone generator, said generator comprising:

a) an outer housing and a plurality of support tubes mounted within said housing;

b) said support tubes each supporting therein one or more dielectrics;

c) each of said support tubes having an inner wall and a passageway between said inner wall and said one or more dielectrics;

d) said passageway communicating between a support tube inlet and a support tube outlet; and

e) a shell surrounding said support tubes, said shell defining an interior surrounding said support tubes;

f) said interior communicating between a shell inlet and a shell outlet;

g) said method comprising circulating a clean, dry mixture of oxygen, nitrogen and argon at 55°C - 60°C between said shell inlet and shell outlet;

h) supplying said shell with warm water at 55°C - 60°C;

i) diverting a portion of the gas exiting said support tubes to a liquid ring compressor;

j) adding a neutralizing agent to the water in said compressor to maintain the pH in said liquid ring compressor at an approximately constant pH using an in-line process pH controller; and

k) continuing said cleaning until the addition of neutralizing agent terminates as it is no longer required to maintain said constant pH.

30. A method of cleaning an electrical discharge ozone generator comprising passing a warm cleaning gas between an inlet of said generator and an outlet of said generator to evaporate at least some of the NO_x deposited in said ozone generator.

31. A method as claimed in claim 30 wherein said warm cleaning gas exits said ozone generator at a temperature at said outlet sufficient to maintain the NO_x in a gaseous state until said NO_x exits said ozone generator.

32. A method as claimed in claim 31 wherein said cleaning gas consists substantially of oxygen gas.

33. A method as claimed in claim 30 wherein said NO_x includes N_2O_5.

34. A method as claimed in claim 31 wherein said cleaning gas is warmed to between 47°C to 65°C for cleaning said ozone generator.